

ENHANCED BANDWIDTH DUAL LAYER CURRENT SHEET ANTENNA**ABSTRACT**

An array of radiating elements including a first set of antenna elements in an array configuration and a second set of antenna elements in an array configuration.

- 5 The first set of antenna elements is positioned below the second set of antenna elements with the first set acting as an effective ground plane for the second set.
- The first set of antenna elements are aligned in a first planar grid pattern of spaced rows and columns and the second set of antenna elements are aligned in a second similar grid pattern rotated at a 45 degree angle relative to the first grid pattern.
- 10 The array can be configured for wideband operation by having the first band of frequencies adjacent to the second band of frequencies. The array can include a dielectric material interposed between the first plurality of antenna elements and the second plurality of antenna elements.